

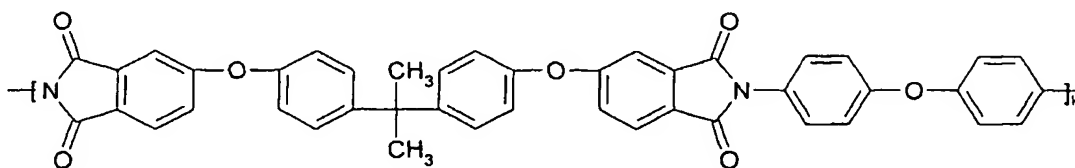
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

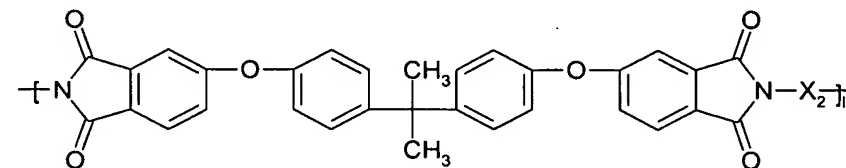
Listing of Claims:

1. (Currently Amended) A double-sided metallic laminate comprising a metallic layer at one side, a resin layer of a low expansion polyimide having a thermal expansion coefficient of 5×10^{-6} to $2.5 \times 10^{-5}/^{\circ}\text{C}$, a resin layer of a thermoplastic polyimide and a metallic layer at the other side, wherein the thermoplastic polyimide has a glass transition temperature of 200 to 250 $^{\circ}\text{C}$ and is a copolymer including the following formula 2a, formula 2b, formula 2c and formula 2d:

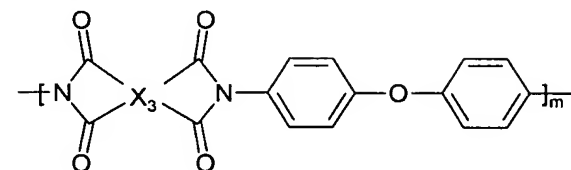
[formula 2a]



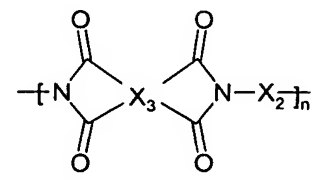
[formula 2b]



[formula 2c]

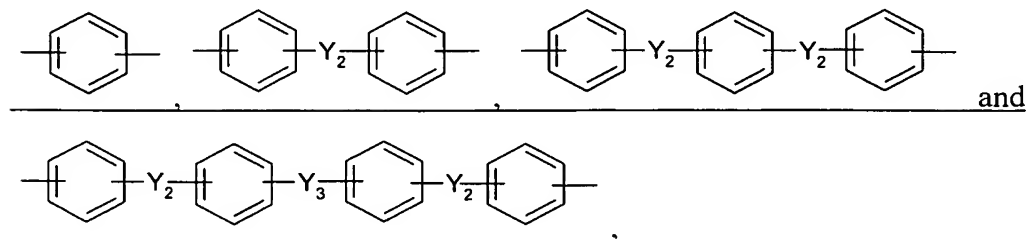


[formula 2d]

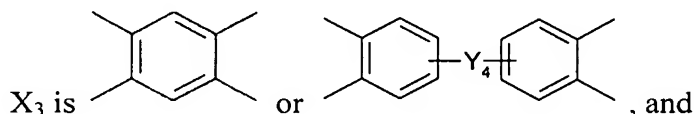


in which, $k \geq 1$, $\ell, m, n \geq 0$, $\ell = m = n \neq 0$, $k \geq \ell$, $k + \ell > 1.5(m + n)$ and $k + m > 1.5(\ell + n)$,

X_2 is at least one selected from the group consisting of



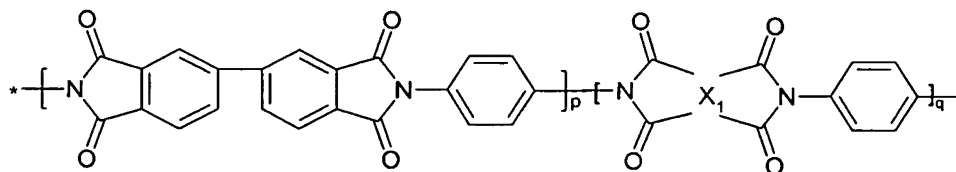
Y_2 and Y_3 are each independently or simultaneously -, -O-, -CO-, -S-, -SO₂-, -C(CH₃)₂- or -CONH-,



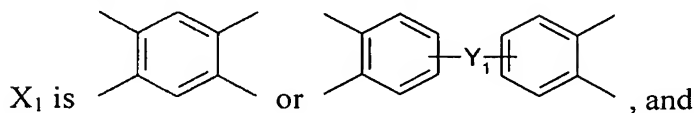
Y_4 is -, -O- or -CO-.

2. (Currently Amended) The double-sided metallic laminate according to claim 1, wherein the low thermal expansion polyimide is the following formula 1 [[.]]:

[formula 1]



in which, $p > 1$, $q > 0$ and $p/q = 0.4 \sim 2.5$,



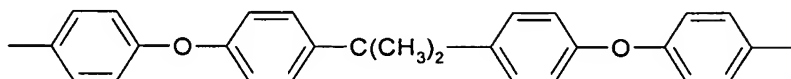
Y_1 is -O- or -CO-.

3. (Canceled)

4. (Canceled)

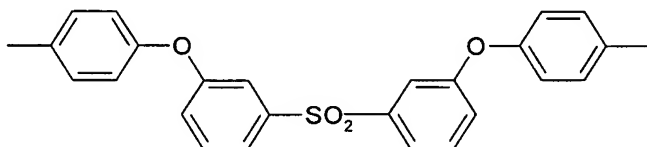
5. (Currently Amended) The double-sided metallic laminate according to claim 1, wherein the thermoplastic polyimide is the formulae 2a to 2d, in which m, n= 0 and X₂ is the following formula 3.

[formula 3]



6. (Currently Amended) The double-sided metallic laminate according to claim 1, wherein the thermoplastic polyimide is the formulae 2a to 2d, in which m, n=0 and X₂ is the following formula 4.

[formula 4]



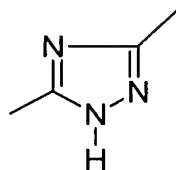
7. (Original) The double-sided metallic laminate according to claim 1, wherein the metallic layer is formed of copper.

8. (Currently Amended) The double-sided metallic laminate according to claim 1, which further comprises a polyimide resin layer for improving adhesion with a metal ~~of a polyimide~~ between the metallic layer at one side and a the resin layer of a the low expansion polyimide ~~for improving adhesion with a metal~~.

9. (Original) The double-sided metallic laminate according to claim 8, wherein the polyimide for improving adhesion with a metal is a polyimide having a -NH- functional group introduced.

10. (Currently Amended) The double-sided metallic laminate according to claim 8, wherein the polyimide for improving adhesion with a metal is a polyimide having the following formula 5 introduced[.]:

[formula 5]



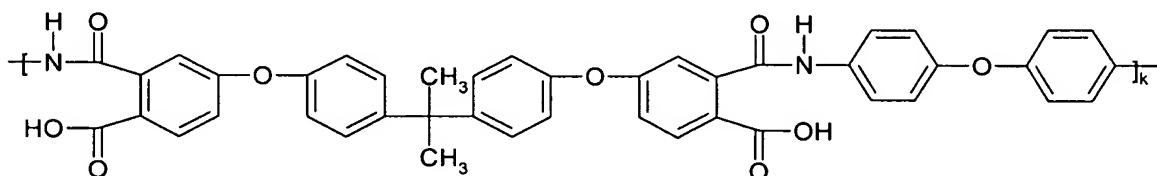
11. (Currently Amended) The double-sided metallic laminate according to claim [[1]] 8, wherein the polyimide for improving adhesion with a metal is a copolymer including the formula 2a, formula 2b, formula 2c and formula 2d.

12. (Currently Amended) A method for manufacturing a double-sided metallic laminate comprising simultaneously or sequentially applying a precursor of a low thermal expansion polyimide having a thermal expansion coefficient of 5×10^{-6} to $2.5 \times 10^{-5}/^{\circ}\text{C}$ 5×10^{-6} to $2.5 \times 10^{-5}/^{\circ}\text{C}$ and a precursor of a thermoplastic polyimide on a metal foil to form one side of the double-sided metallic layer, followed by drying and curing, and laminating another metal foil on the resin layer of a thermoplastic polyimide of the resulting one-sided metallic laminate comprising a metal foil layer, a resin layer of a low expansion polyimide and a resin layer of a thermoplastic polyimide, which are sequentially laminated, to form the other side of the double-sided metallic laminate;

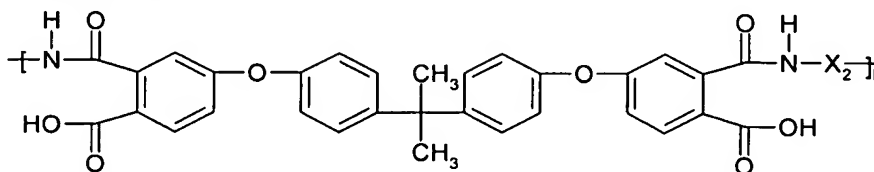
wherein the thermoplastic polyimide has a glass transition temperature of 200 to 250 $^{\circ}\text{C}$;

wherein the precursor of a thermoplastic polyimide is a copolymer including the following formula 7a, formula 7b, formula 7c and formula 7d:

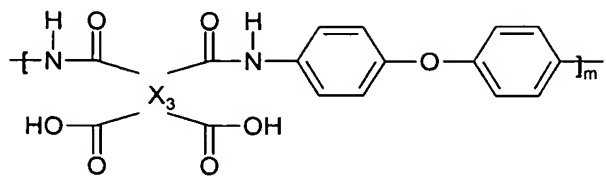
[formula 7a]



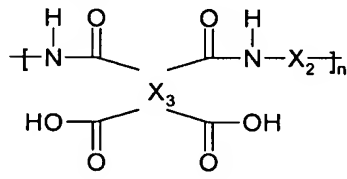
[formula 7b]



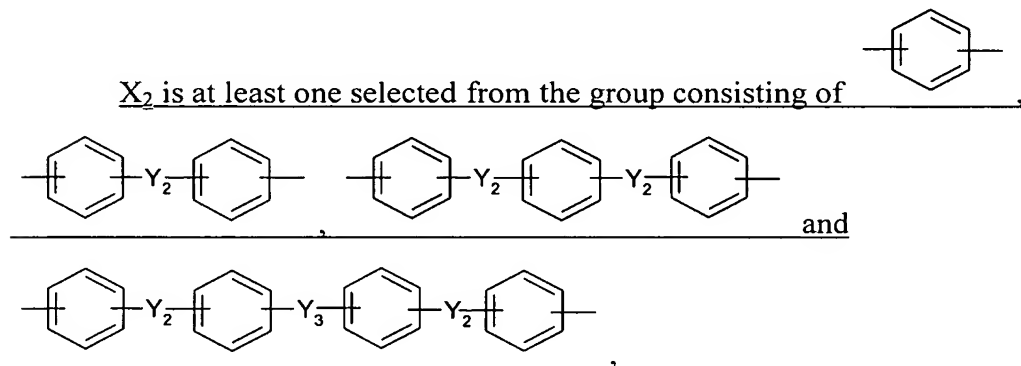
[formula 7c]



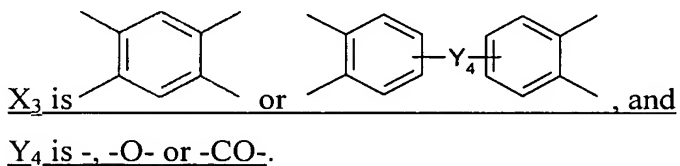
[formula 7d]



in which, $k \geq 1$, ℓ , $m, n \geq 0$, $\ell = m = n \neq 0$, $k \geq \ell$, $k + \ell > 1.5(m + n)$ and $k + m > 1.5(\ell + n)$.

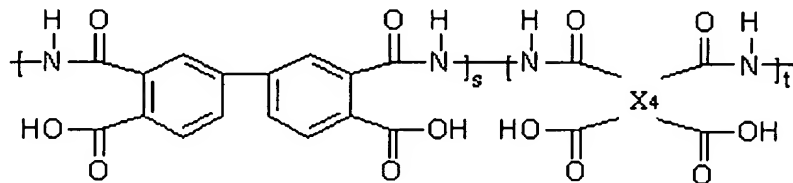


Y_2 and Y_3 are each independently or simultaneously -, -O-, -CO-, -S-, -SO₂-, -C(CH₃)₂- or -CONH-.

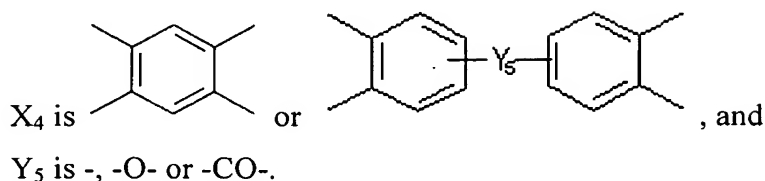


13. (Currently Amended) The method according to claim 12, wherein the precursor of a low thermal expansion polyimide is a copolymer of the following formula 6[[.]]:

[formula 6]



in which, $s > 1$, $t > 0$ and $s/t = 0.4 \sim 2.5$,



14. (Canceled)

15. (Canceled)

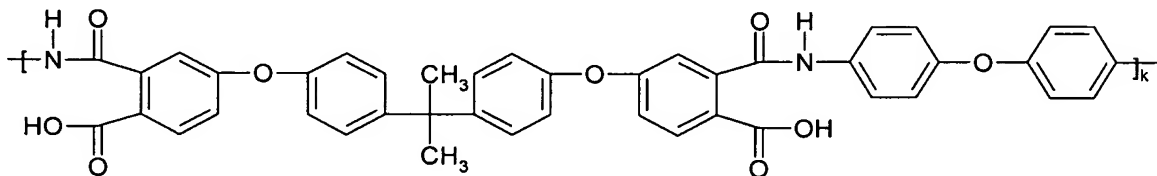
16. (Currently Amended) The method according to claim [[15]] 12, wherein the precursor of a thermoplastic polyimide is the formulae 7a to 7d, in which $m, n=0$ and X_2 is the formula 3.

17. (Currently Amended) The method according to claim [[15]] 12, wherein the precursor of a thermoplastic polyimide may be the formulae 7a to 7d, in which $m, n=0$ and X_2 is the formula 4.

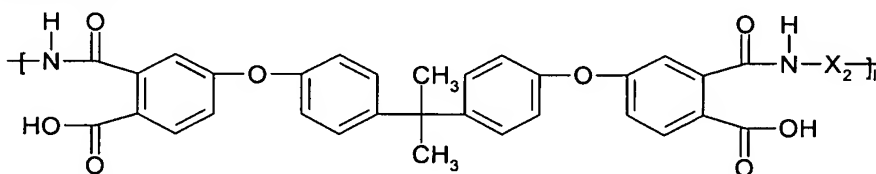
18. (Currently Amended) ~~The method according to claim 12, wherein the precursor applied on the metal film at one side of the double-sided metallic layer is a precursor of a polyimide for improving adhesion with a metal, precursor of a low thermal expansion polyimide having a thermal expansion coefficient of 5×10^{-6} to $2.5 \times 10^{-5}/^\circ\text{C}$ and a precursor of a thermoplastic polyimide~~ A method for manufacturing a double-sided metallic laminate comprising simultaneously or sequentially applying a precursor of a polyimide for improving adhesion with a metal, a precursor of a low thermal expansion polyimide having a thermal expansion coefficient of 5×10^{-6} to $2.5 \times 10^{-5}/^\circ\text{C}$ and a precursor of a thermoplastic polyimide on a metal foil to form one side of the double-sided metallic layer, followed by drying and curing, and laminating another metal foil on the resin layer of a thermoplastic polyimide of the resulting one-sided metallic laminate comprising a metal foil layer, a resin layer of a low expansion polyimide and a resin layer of a thermoplastic polyimide, which are sequentially laminated, to form the other side of the double-sided metallic laminate wherein the thermoplastic polyimide has a glass transition temperature of 200 to 250°C ;

wherein the precursor of a thermoplastic polyimide is a copolymer including the following formula 7a, formula 7b, formula 7c and formula 7d:

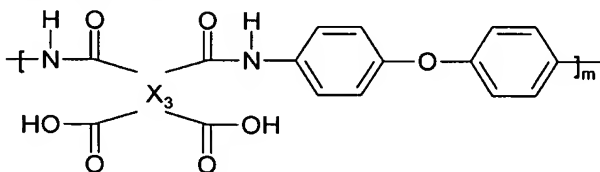
[formula 7a]



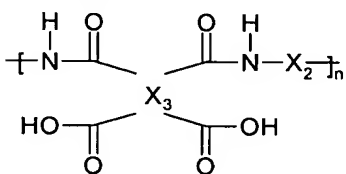
[formula 7b]



[formula 7c]

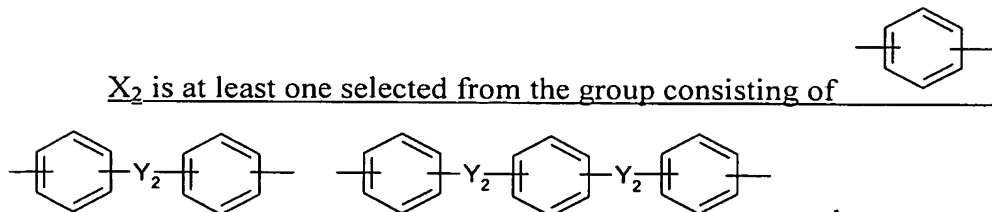


[formula 7d]

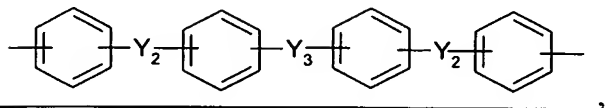


in which, $k \geq 1$, ℓ , $m, n \geq 0$, $\ell = m = n \neq 0$, $k \geq \ell$, $k + \ell > 1.5(m + n)$ and $k + m > 1.5(\ell + n)$,

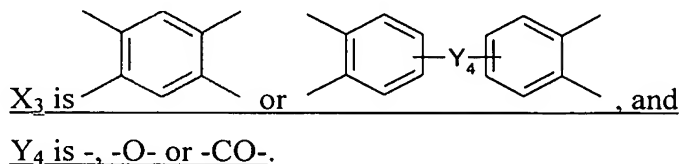
X_2 is at least one selected from the group consisting of



and



Y₂ and Y₃ are each independently or simultaneously -, -O-, -CO-, -S-, -SO₂-, -C(CH₃)₂- or -CONH-,



19. (Currently Amended) The method according to claim [[12]] 18, wherein the precursor of a polyimide for improving adhesion with a metal is a precursor of a polyimide having a -NH- functional group introduced.

20. (Currently Amended) The method according to [[12]] 18, wherein the precursor of a polyimide for improving adhesion with a metal is a precursor of a polyimide having the formula 5 introduced.

21. (Currently Amended) The method according to [[12]] 18, wherein the precursor of a polyimide for improving adhesion with a metal is a copolymer including formula 7a, formula 7b, formula 7c and formula 7d.